

Hawley's
Condensed Chemical
Dictionary

THIRTEENTH EDITION

Revised by
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VAN NOSTRAND REINHOLD

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Properties: Yellow, fibrous mass. Insoluble in water, dilute acids, alkalies, salt solutions, and alcohol. Is partially digested by pepsin solution and wholly by trypsin.

"ElastoFlo" [*Union Carbide*]. TM for ethylene-propylene rubber polymer.

Properties: A free-flowing granular solid.

Use: For automotive hose, tubing and extrusions, roofing membranes and gaskets.

elastomer. As originally defined by Fisher (1940), this term referred to synthetic thermosetting high polymers having properties similar to those of vulcanized natural rubber, namely, the ability to be stretched to at least twice their original length and to retract very rapidly to approximately their original length when released. Among the better-known elastomers introduced since the 1930s are styrene-butadiene copolymer, polychloroprene (neoprene), nitrile rubber, butyl rubber, polysulfide rubber ("Thiokol"), *cis*-1,4-polyisoprene, ethylene-propylene terpolymers (EPDM rubber), silicone rubber, and polyurethane rubber. These can be cross-linked with sulfur, peroxides, or similar agents. The term was later extended to include uncross-linked polyolefins that are thermoplastic; these are generally known as TPO rubbers. Their extension and retraction properties are notably different from those of thermosetting elastomers, but they are well adapted to such specific uses as wire and cable coating, automobile bumpers, vibration dampers, and specialized mechanical products.

"Elbasols" [*Holliday*]. TM for solvent dyes.
Use: In the coloration of plastics.

"Elbecrons" [*Holliday*]. TM for disperse dyes.
Use: Mainly on triacetate and polyester materials.

"Elbenyls" [*Holliday*]. TM for selected acid dyes.
Use: On nylon materials.

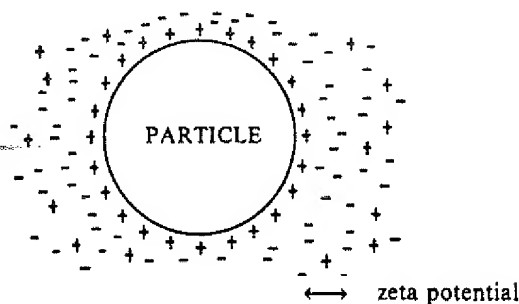
Elbs persulfate oxidation. Hydroxylation of phenols to *p*-diphenols by potassium persulfate in alkaline solution.

Elbs reaction. Formation of anthracenes by intramolecular condensation of diaryl ketones containing a methyl or methylene substituent adjacent to the carbonyl group.

electric double layer. A diffuse aggregation of positive and negative electric charges surrounding a suspended colloidal particle that aids in maintaining its stability. According to the Gouy-Freundlich theory, advanced about 1920, a close-packed array of charges is attached to the surface of the particle while a diffuse layer of charges of opposite sign extends into the liquid. The particle is electrically

neutral. There is an electrokinetic potential gradient across the double layer that is called the zeta potential. The diagram is an approximation of this phenomenon. Modifications of this theory have been introduced in recent years, notably by Derjaguin and Landau and by Verwey and Overbeek (DLVO theory).

See zeta potential.



electric furnace. See furnace.

electric steel. Steel made in an electric furnace.

electric vehicle propulsion. See storage battery.

electride. An experimental compound composed of an alkali-metal cation and an electron in which the electron functions as a chemical element (e.g., a halogen) in salt formation. Several such compounds have been made in the U.S. and abroad. The phenomenon is reported to be one that challenges accepted concepts of compound formation.

electrochemical equivalent. The number of grams of an element or group of elements liberated by the passage of one coulomb of electricity (one ampere for one sec).

"Electrocarb" [*Electro Abrasives*]. TM for silicon carbide.

CAS: 409-21-2.

Properties: High thermal conductivity, abrasion resistant, high hardness (2550 knoop). Electrical conductor.

Grade: Grit sizes 8-1600 mesh.

Use: Wear resistant filler, thermal conductor in compounds, high temperature paints, ceramics, refractories. As a polishing and lapping abrasive.

Electrochemical Society. (ECS). Established in 1902, this society was organized to promote the advancement of the science of electrochemistry and related fields. It comprises 11 divisions, each de-